The Mediating Role of Income Inequality in the Relationship between Manufacturing Job Losses and Protectionism

Abstract

While the role of political factors such as the ongoing refugee crisis and the rise of nationalism in igniting anti-globalist movements is widely acknowledged, the role of economic factors is often overlooked. In an era of globalization, companies seek to relocate their production facilities to low-income countries to stay competitive in international trade. Manufacturing sector is particularly exposed to job losses due to cheap labor from overseas. This attracts support for protectionist sentiments. Meanwhile, income inequality has emerged as a by-product of international trade as it tends to favor export-oriented industries while hurting import-competing sectors. Given that a widening gap between the rich and poor can fuel resentment and discontent among the population, which can be easily exploited by the populists for their rhetoric, a deeper investigation is necessary to understand its contribution to protectionist trade policies. In this paper, I examine the mediating role played by income inequality in the relationship between manufacturing job losses and protectionism. Analyzing balanced panel data from 186 countries through fixed and random effects regressions with Driscoll Kraay standard errors, I find that manufacturing jobs do not have a direct effect on higher average tariff rates. However, the mediation analysis conducted by structural equation models such as SEM, MEDSEM, and GSEM show that this relationship is mediated by rising income inequality. Conclusions drawn from this research enlighten policymakers about the repercussions of economic insecurities and help them counter protectionist rhetoric by presenting well-informed policies, which seek to address the root causes of income inequality.

Keywords: Economic insecurity, unemployment, income inequality, protectionism.

1. Introduction and hypotheses

Recent rise on populist sentiments in the US and Europe manifested by divisive US presidential race, Brexit, and Italy's Five Star movement, to name a few, have created a need for revisiting both political and economic factors leading to populism. Existing considerations on the drivers of populism and protectionist policies have been centered on political issues such as nationalism, fear of illegal immigration, anti-establishment sentiments, and political polarization (Droste, 2021); (Snower & Bosworth, 2021; van der Waal & de Koster, 2018). While these political issues are undeniably important in sparking public support for populist leaders, they serve only as proximate

causes of populism. In general, international trade produces economic benefits for all participating countries. However, the benefits are not equally distributed among the households in those countries, and some individuals may experience job losses while others because of differences in their skills (Carroll & Hur, 2019). This provides a fertile ground for populist politicians to use economic insecurities experienced by the population and rally them in favor of their protectionist agendas.

Prior studies have highlighted that populist leaders can tap into economic grievances to win electoral support for their protectionist narratives (Guriev & Papaioannou, 2022; Rodrik, 2018). Therefore, it is crucial to explore the determinants of protectionism from an economic perspective. In this paper, I contend that the root causes of protectionism lie deep within economic insecurities. Jobs in the manufacturing sector are particularly vulnerable to the expansion of global trade, as it hurts unskilled workers in import-competing industries (Autor et al., 2013). This is likely to lead them to fall receptive to the messages of populist politicians who vow to address those economic insecurities. In the meantime, rising income inequality fuel dissatisfaction among the lower-skilled population who are disproportionately hurt by trade. Following this line of reasoning, this paper posits that dwindling share of manufacturing in total employment is conducive to protectionism, and this relationship is mediated by income inequality. To test this hypothesis, it examines whether the share of manufacturing in total employment exerts a positive effect on average tariff rates. The regression results obtained from balanced panel data collected from 186 countries show confirm the positive influence of unemployment, inequality on the average level of tariffs imposed for all products. Moreover, the mediation analysis conducted by using structural equation models SEM and GSEM shows that this relationship is mediated by rising income inequality.

2. Data and methodology

I use fixed and random effects model for estimating the effect of manufacturing job losses and the mediating effect of income inequality on weighted average of tariff rates applied for all products.

$$Average\ tariff_{i,t} = \beta_0 + \beta_1 Manuf\_jobs_{i,t} + \beta_2 Gini_{i,t} + Controls_{i,t} + \varepsilon_{i,t}.$$

As a dependent variable in the above model, I use the weighted average of tariff rates applied for all products from World Bank. The data on the *standardized Gini index* are obtained from the latest version of the UNU-WIDER World Income Inequality Database (WIID). Manufacturing employment as a proportion of total employment, which is collected from ILO, is used as a proxy for the share of manufacturing jobs. I use SEM and GSEM structural equation models that allow me to estimate the

mediating effect of Gini coefficient on the relationship between manufacturing jobs and the weighted average of tariff rates applied for all products. urrent account balance as a percentage of GDP

Figure 1. *The mediating effect of Gini coefficient on the relationship between manufacturing jobs and the average tariff rates for all products.*
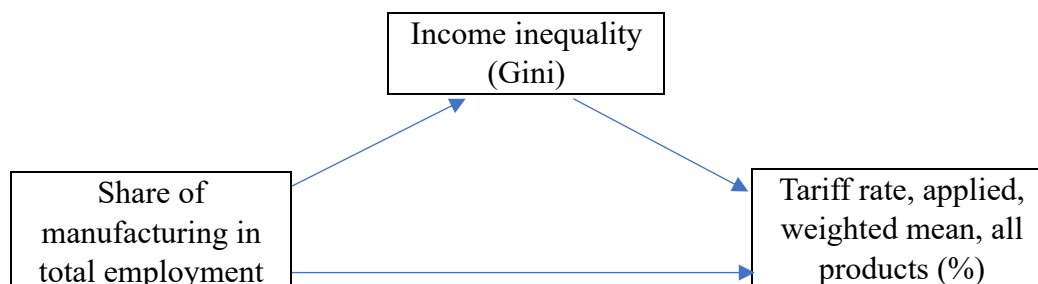
Table 1. Descriptive statistics of variables

	Obs.	Mean	SD	Min.	Max.
Average tariff rate	1,160	5.54	6.44	0	118.21
Manufacturing employment as % of total employment	917	11.76	5.43	0.24	30.78
Gini coefficient	628	38.51	8.93	15.16	67.46
Current account balance as % of GDP	1,470	-2.65	11.45	-52.51	171.26
Trade as % of GDP	1,489	91.555	57.94	9.955	442.62

3. Preliminary results

Results from random-effects regressions and mediation analyses show that the loss of manufacturing jobs has a positive but insignificant impact on average tariff rates, with income inequality playing an intriguing mediating role. This study illuminates the intricate interplay between changes in manufacturing job sector, income inequality and trade policy by using sophisticated mediation analysis approaches through structural equation modeling (SEM), MEDSEM, and generalized structural equation modeling (GSEM) models. It highlights the reality that countries often impose higher average tariff rates as manufacturing employment shrinks. Interestingly, it is found that Gini coefficient mediates this relationship, showing that the negative effects of manufacturing job losses on income inequality may incentivize governments to implement protectionist policies as a reaction.

Table 2. Random-effects regressions with Driscoll-Kraay standard errors

VARIABLES	(RE with Driscoll-Kraay std. errors) Average tariff rate	(RE with Driscoll-Kraay std. errors) Average tariff rate
Manufacturing employment as % of total employment	-0.0558	-0.0721
	(0.0544)	(0.0689)
Gini coefficient	0.105***	0.0835***
	(0.0185)	(0.0209)
Current account balance as % of GDP		-0.0255**
		(0.00862)
Trade as % of GDP		-0.00921***
		(0.00147)
Year fixed effects	yes	yes
Constant	0.903	2.626
	(1.347)	(1.471)
Observations	477	473
Number of groups	108	105

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3. Mediation analysis results based on Structural Equation Modelling (SEM)

VARIABLES	(1) Average tariff rate	(2) Gini coefficient	(3) var(e.avg_tariff)	(4) var(e.gini_coeff)
Gini coefficient	0.110***			

	(0.0146)			
Manufacturing employment as % of total employment	-0.0682***	-0.423***		
	(0.0210)	(0.0701)		
Current account balance as % of GDP	0.000991			
	(0.0209)			
Trade as % of GDP	-0.00506***			
	(0.00184)			
Constant	0.443	42.42***	4.832***	61.22***
	(0.741)	(0.976)	(0.314)	(3.981)
Observations	473	473	473	473

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4. Mediation analysis results on based on Baron and Kenny's (1986) approach including the two procedures (MEDSEM).

	(1)	(2)	(3)	(4)
VARIABLES	Average tariff rate	Gini coefficient	var(e.avg_tariff)	var(e.gini_coeff)
Gini coefficient	0.110***			
	(0.0146)			
Manufacturing employment as % of total employment	-0.0682***	-0.423***		
	(0.0210)	(0.0701)		
Current account balance as % of GDP	0.000991			
	(0.0209)			
Trade as % of GDP	-0.00506***			
	(0.00184)			

Constant	0.443	42.42***	4.832***	61.22***
	(0.741)	(0.976)	(0.314)	(3.981)
Observations	473	473	473	473

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5. One-level mediation analysis results based on Generalized Structural Equation (GSEM)

VARIABLES	avg_tariff	gini_std	var(U1[id])	var(U2[id])	cov(U2[id] U1[id])	var(e.avg_tariff)	var(e.gini_std)
Gini coefficient	0.0731*						
	(0.0403)						
Manufacturing employment as % of total employment	-0.0750	-0.370***					
	(0.0477)	(0.0770)					
Current account balance as % of GDP	-0.0244						
	(0.0196)						
Trade as % of GDP	-0.00897**						
	(0.00420)						
Year fixed effects	yes	yes					

U1[id]	1					
	(0)					
U2[id]		1				
		(0)				
Constant	3.068	45.00***	8.730***	90.33***	1.580	0.867***	1.509***
	(1.954)	(1.228)	(1.315)	(11.53)	(4.788)	(0.0647)	(0.104)
Observations	551	551	551	551	551	551	551

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4. References

Carroll, D. R., & Hur, S. (2019). The Winners and Losers from Trade. *Economic Commentary (Federal Reserve Bank of Cleveland)*, 1–5. https://doi.org/10.26509/frbc-ec-201915

David A. Autor, D. D. (2013). The China Syndrome: Local Labor Market Effects of Import Competition in the United States. *American Economic Review*, 2121–2168.

Droste, L. (2021). Feeling left behind by political decisionmakers: Anti-establishment sentiment in contemporary democracies. *Politics and Governance*, *9*(3), 288–300. https://doi.org/10.17645/pag.v9i3.3949

Guriev, S., & Papaioannou, E. (2022). The Political Economy of Populism. *Journal of Economic Literature*, *60*(3), 753–832. https://doi.org/10.1257/jel.20201595

Rodrik, D. (2018). Populism and the economics of globalization. *Journal of International Business Policy*, *1*(1–2), 12–33. https://doi.org/10.1057/s42214-018-0001-4

Snower, D. J., & Bosworth, S. J. (2021). Economic, social and political fragmentation: Linking knowledge-biased growth, identity, populism and protectionism. *European Journal of Political Economy*, *67*(October 2020), 101965. https://doi.org/10.1016/j.ejpoleco.2020.101965

van der Waal, J., & de Koster, W. (2018). Populism and Support for Protectionism: The Relevance of Opposition to Trade Openness for Leftist and Rightist Populist Voting in The Netherlands. *Political Studies*, *66*(3), 560–576. https://doi.org/10.1177/0032321717723505